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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/822,939

04/13/2004

Joseph F. Bringley

87765SMR

4458

7590

03/12/2008

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EXAMINER

HRUSKOCI, PETER A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/822,939	Applicant(s) BRINGLEY ET AL.	
	Examiner /Peter A. Hruskoci/	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 4/13/04, 10/28/05, and 12/10/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 35-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/13/04 and 10/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

The restriction requirement dated 11-13-07 with respect to Groups I and II has been withdrawn in view of the traverse dated 12/10/07. Group III claims 35-38 stand withdrawn from further consideration.

The disclosure is objected to because of the following informalities: In the specification on pages 9 and 10 the chemical formula of the "LICAMS" should be included to describe the invention in clear, concise, and exact terms.

Appropriate correction is required.

Claims 7, 20, and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 7 and 20 "LICAMS" is vague and indefinite because it is unclear how this term further limits the claims. In claim 28 "the polymeric layer" lacks clear antecedent basis.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 and 14-26 rejected under 35 U.S.C. 103(a) as being unpatentable over DeVoe et al. 4,585,559 in view of Colegate et al. 4,033,764. DeVoe et al. disclose (see col. 13 line 60 through col. 14 line 46) a composition and article comprising composite particles of a host material or carrier and a metal ion sequestrant substantially as claimed. The claims differ from DeVoe et al. by reciting that the host material is a layered host material intercalated with the sequestrant. Colegate et al. disclose (see col. 1 line 44 through col. 5 line 57) that it is known

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in the art to support a complexing agent in a framework of a layered substrate such as clay, to aid in removing metal ions from a solution. It would have been obvious to one skilled in the art to modify the composition and article of DeVoe et al. by utilizing the recited host material in view of the teachings of Colegate et al., to aid in removing metal ions from a solution. With regard to claims 12, 15, and 23-25, it is submitted that Colegate et al. as applied above, disclose the incorporation of the complexing or sequestering composition in a porous polymer matrix to increase the permeability of a column or bed of the composition. The specific stability constant of the sequestrant, particle size of the host material, and water permeability of the polymeric layer, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific use of the composition or article and results desired, absent a sufficient showing of unexpected results.

Claims 13 and 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVoe et al. 4,585,559 in view of Colegate et al. 4,033,764 as above, and further in view of Cook 6,933,046. The claims differ from the references as applied above by reciting that the use of a specific polymer or polymeric layer, and barrier layer. Cook disclose (see col. 13 line 5 through col. 14 line 67) that it is known in the art to utilize polyurethanes and acrylic resins, to aid in forming a carrier or matrix for particles including a chelating or sequestering agent. Cook further teaches that the polymeric material provides a physical barrier between the environment and a metal substrate or surface including the particles. It would have been obvious to one skilled in the art to modify the references as applied above, by utilizing the polymer or polymeric material in view of the teachings of Cook, to aid in providing a matrix or barrier layer for the composition. The specific water permeability and thickness of the barrier layer, would have been

an obvious matter of process optimization to one skilled in the art, depending on the specific use of the article and results desired, absent a sufficient showing of unexpected results. With regard to claim 34, it is submitted that the physical barrier disclose in Cook would appear to prevent the diffusion or passage of micro-organisms.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Peter A. Hruskoci/ whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A. Hruskoci/
Primary Examiner
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